

Appl. No. 10/748,734
Amdt. Dated August 26, 2005
Reply to Office Action of March 30, 2005

Attorney Docket No. 88519.0001
Customer No.: 26021

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A transparent electrode made up of ZnO as its main material, wherein its surface is covered with a Mg-doped ZnO film.
2. (New) A transparent electrode comprising:
 - a ZnO layer; and
 - an Mg-doped ZnO film formed on the ZnO layer.
3. (New) The transparent electrode of Claim 2, wherein the ZnO layer is formed on a semiconductor layer.
4. (New) The transparent electrode of Claim 3, wherein the semiconductor layer comprises a GaN system semiconductor layer.
5. (New) The transparent electrode of Claim 3, wherein the semiconductor layer comprises an n-type GaN system semiconductor layer formed on a substrate, an emission layer formed on the n-type GaN system semiconductor layer, and a p-type GaN system semiconductor layer formed on the emission layer.
6. (New) The transparent electrode of Claim 2, wherein the Mg-doped ZnO film overlies an upper surface of the ZnO layer.
7. (New) The transparent electrode of Claim 2, wherein the Mg-doped ZnO film overlies an upper surface and side surfaces of the ZnO layer.
8. (New) The transparent electrode of Claim 2, wherein a first metal pattern is formed on the Mg-doped ZnO film.

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9. (New) The transparent electrode of Claim 3, wherein a second metal pattern is formed on the semiconductor layer.

10. (New) The transparent electrode of Claim 2, wherein the Mg-doped ZnO film improves acid resistance of the transparent electrode.

11. (New) The transparent electrode of Claim 3, wherein the semiconductor layer is formed on a substrate.

12. (New) A light emitting device comprising:

a semiconductor layer formed on a substrate;
a ZnO transparent electrode formed on the semiconductor layer; and
an Mg-doped ZnO film formed on the ZnO transparent electrode.

13. (New) The light emitting device of Claim 12, wherein the semiconductor layer comprises a GaN system semiconductor layer.

14. (New) The light emitting device of Claim 12, wherein the semiconductor layer comprises an n-type GaN system semiconductor layer formed on the substrate, an emission layer formed on the n-type GaN system semiconductor layer, and a p-type GaN system semiconductor layer formed on the emission layer.

15. (New) The light emitting device of Claim 12, wherein the Mg-doped ZnO film overlies an upper surface of the ZnO transparent electrode formed on the semiconductor layer.

16. (New) The light emitting device of Claim 12, wherein the Mg-doped ZnO film overlies an upper surface and side surfaces of the ZnO transparent electrode formed on the semiconductor layer.

17. (New) The light emitting device of Claim 12, wherein a first metal pattern is formed on the Mg-doped ZnO film.

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18. (New) The light emitting device of Claim 12, wherein a second metal pattern is formed on the semiconductor layer.

19. (New) The light emitting device of Claim 12, wherein the Mg-doped ZnO film improves acid resistance of the light emitting device.

20. (New) A light emitting device comprising:

 a semiconductor layer formed on a substrate;
 a ZnO transparent electrode formed on the semiconductor layer; and
 an Mg-doped ZnO film formed on an upper surface and side surfaces of the ZnO transparent electrode.

21. (New) The light emitting device of Claim 20, wherein the semiconductor layer comprises a GaN system semiconductor layer.

22. (New) The light emitting device of Claim 20, wherein the semiconductor layer comprises an n-type GaN system semiconductor layer formed on the substrate, an emission layer formed on the n-type GaN system semiconductor layer, and a p-type GaN system semiconductor layer formed on the emission layer.

23. (New) The light emitting device of Claim 20, wherein a first metal pattern is formed on the Mg-doped ZnO film.

24. (New) The light emitting device of Claim 20, wherein a second metal pattern is formed on the semiconductor layer.

25. (New) The light emitting device of Claim 20, wherein the Mg-doped ZnO film improves acid resistance of the light emitting device.